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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,476	12/21/2000	Guocun Chen	270-3042-U	9031

7590 12/26/2001
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EXAMINER

BISSETT, MELANIE D

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 12/26/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

MF-2

Office Action Summary

Application No.

09/746,476

Applicant(s)

CHEN, GUOCUN

Examiner

Melanie Bagwell-Bissett

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claims 4-7 recite the limitation "said layer comprised of refractory metal nitride." However, claims 1 and 3 recite only a layer comprised of refractory metal nitride or refractory metal alloy nitride. In this case, it is unclear whether the applicant intends to include refractory metal alloy nitride compounds in the layer or whether the applicant intends to claim *said metal-containing layer, where the layer is comprised of refractory metal nitride*.

Summary of the Claims

4. Claim 1 is drawn to an article having a multi-layer coating having the appearance of nickel comprising a polymer layer and a layer comprising refractory metal nitride or refractory metal alloy nitride having an atomic nitrogen content of 6-45%. Claim 2 limits the nitrogen content, claim 3 limits the relationship between the two layers of claim 1, claims 4-7 limit the article to contain other layers, and claim 8 limits the polymer.

Claim Rejections - 35 USC § 103

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Muromachi et al.

8. Muromachi discloses an automotive window glass having a glass substrate, a layer of transparent resin, a layer of a heat-ray intercepting film, and another layer of glass (see Figures 1-4). The figures show a metal layer on a polymer resin layer. Examples show the use of refractory metal oxynitrides having certain atomic ratios of nitrogen (example 1, 0.6 nitrogen/2.0 total = 30%). Although the reference teaches that yellowish color in the oxynitrides are not suitable for automotive applications, the appearance of the oxynitride layers of the invention are not specified.

9. The reference teaches oxynitride compounds having the applicant's claimed metal components and nitrogen contents, suggesting the appearance should be similar. It is also suggested that the nitrogen content alters the coloring of the metal layer. It is

the examiner's position that, because the reference discloses all the limitations of the claims except the properties of the metal layer appearance, the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render the claimed invention obvious. Therefore, it is appropriate for the examiner to make a rejection under both the applicable section of 35 USC 102 and 35 USC 103 such that the burden is placed upon the applicant to provide clear evidence that the respective compositions do in fact differ. *In re Fitzgerald et al.*, 205 USPQ 594.

10. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van de Leest et al.

11. Van de Leest discloses reflective optical structures comprising a substrate provided with a light-cured acrylate layer, which is covered with a titanium nitride layer (col. 6, lines 38-64, Figure 3). Exemplified nitrogen contents of the sputtering gas fall between 18.1 and 31.0%. However, the reference does not provide nitrogen content by atomic percent or specify nickel appearance of the coating. The reference does teach titanium nitride as having a golden yellow color, where the color intensifies and dulls with changing nitrogen contents (col. 4 lines 21-27). Therefore, it is the examiner's position that it would have been prima facie obvious to use a nitride compound having any nitrogen content necessary to optimize the coloring of the coating as desired for a given application.

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12. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muromachi et al.

13. The reference applies as above, failing to mention the application of subsequent layers of metal compounds. It has been held obvious to apply more than one layer of a coating to further enhance the properties of the coating component. In this case, the metal compound layer is used to intercept heat rays from sun exposure. Therefore, it is the examiner's position that it would have been prima facie obvious to provide more than one layer of the oxynitride layer to further improve heat-ray interception. A second layer would provide a metal oxide or a reaction product of refractory metal, oxygen, and nitrogen on a refractory metal compound layer.

Allowable Subject Matter

14. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. The following is a statement of reasons for the indication of allowable subject matter:

16. The closest prior art, Muromachi et al. (USPN 5,336,565), discloses an automotive window glass having a glass substrate, a layer of transparent resin, a layer of a heat-ray intercepting film, and another layer of glass. However, the reference does not teach the use of epoxy urethane resins as a polymer layer. Therefore, it is the

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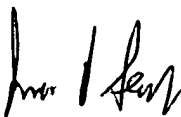
examiner's position that the use of epoxy urethane resin layers in the applicant's claimed multi-layer coating provides a novel, unobvious step over the prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Bagwell-Bissett whose telephone number is (703) 308-6539. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (703) 308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After.Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

mdb
December 14, 2001


James J. Seidleck
Supervisory Patent Examiner
Technology Center 1700